

DOCUMENT RESUME

ED 192 141

CE C26 738

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TITLE Skills for Adult Guidance Educators. Package 11:
Selecting Assessment Instruments.
INSTITUTION Northwest Regional Educational Lab., Portland,
Oreg.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE Apr 75
NOTE 34p.: For related documents see CE 026 726-739.
AVAILABLE FROM Northwest Regional Educational Laboratory, Office of
Marketing, 710 S.W. Second Ave., Portland, OR 97204
(\$4.25: complete set of fourteen volumes, \$61.00)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adult Counseling; Adult Education; Behavioral
Objectives; Career Counseling; Career Guidance;
Counseling Services; *Counselor Training; Guidance
Programs; Learning Activities; *Measures
(Individuals); Pretests Posttests; Program
Development; Program Implementation; Skills; *Student
Educational Objectives; *Testing; Test Norms; *Test
Selection

ABSTRACT

This package is the eleventh of twelve in the Skills for Adult Guidance Educators (SAGE) system, which provides instruction in a set of necessary competencies specifically designed for adult education counselors, teachers, and paraprofessionals. The materials provide a process for developing and implementing counseling and guidance programs unique to different target populations, program settings, and local conditions. Contents include four modules that pertain to one role statement. The role statement describes the trainee objective to demonstrate ability to assist adult students in educational program planning. Each module contains some or all of the following information: topic, learning objective, rationale, preassessment, learning activities, postassessment, and appended materials (supplemental activities, tape transcripts, and articles). (Y1B)

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ED192141

SKILLS FOR ADULT GUIDANCE EDUCATORS.

Package 11

Selecting Assessment Instruments

Developed by
the

ADULT EDUCATION PROGRAM

of the

Northwest Regional Educational Laboratory
710 S. W. Second Avenue
Portland, Oregon 97204

April, 1975

CE 026 738

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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Introduction

The selection of appropriate assessment instruments is an important area of competence for adult guidance personnel. Close supervision is suggested for practical administration and interpretation of specific assessment instruments. The supervisor should possess some background in statistics and test construction (psychometrics).

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Role Statement 20.O

Demonstrate ability to assist adult students in educational program planning

MODULE 20.1

TOPIC

Attain knowledge of assessment instruments designed for adults.

LEARNING OBJECTIVE

The learner will be able to demonstrate knowledge about tests written specifically for adults.

RATIONALE

In order to prescribe an educational program for an individual according to his needs, the program advisor must be familiar with assessment instruments which will accurately diagnose the needs and skill levels of the adult learner.

A.B.E. program instructors and counselors have found that until recently there have been few testing instruments designed for adults. Most of the instructors of adult students in A.B.E. have had little formal training in testing educational skills of adults and have tried to adjust and alter materials ordinarily used with children. Testing instruments commonly used with children are inadequate (in most cases) for use with adults. The groups on which the tests were validated were not made up of adults, so the scales are not accurate for adults. Even a projection of scores is not adequate because children and adults perform differently, even under the same conditions. In recent years, however, there has been a trend toward the development of testing instruments for adults.

The purpose of this learning package is to provide the trainee with the opportunity to become familiar with some assessment instruments which have been developed for adults.

PREASSESSMENT

Choose five tests which have been written specifically for adults. Give information in writing or orally to your supervisor about each test in at least five of the following categories:

1. Title of the instrument
2. Administration time
3. Specific skills tested
4. Instrument cost

5. Norm group
6. Range of levels tested
7. Means of reporting results
8. Interpretation ease
9. Kind of test
 - a. Diagnostic
 - b. Survey
 - c. Aptitude
 - d. Achievement
 - e. Interest
10. Scoring

NOTE: Information on tests written for adults will be found in the Appended Materials section of this module.

LEARNING ACTIVITIES

Learning Activity One

Interview two or more Adult Basic Education counselors, educators, or school counselors in your area. Find out from them what tests they use which were designed specifically for adults. Make a list of those tests and find out the following information about five of the tests on your list (you may get the information from the interview or from the sources in the Appended Materials section of this module):

1. Title of the instrument
2. Administration time
3. Specific skills tested
4. Instrument cost
5. Norm group
6. Range of levels tested
7. Means of reporting results
8. Interpretation ease
9. Kind of test
 - a. Diagnostic
 - b. Survey

- c. Aptitude
- d. Achievement
- e. Interest

10. Scoring

POSTASSESSMENT

Complete the preassessment.

APPENDED MATERIALS

List of tests found in Tests in Print, Oscar Krisen Buros ed. The Gryphon Press: New Jersey, 1961.

Tests of General Educational Development

Wide Range Achievement Test

A-S Reaction Study; A Scale for Measuring Ascendance-Submission in Personality

The Adjustment Inventory

The Alcadd Test

Attitude-Interest Test

Attitude Toward Industrialization

C-R Opinionaire

California Psychological Inventory

California Test of Personality

Community Improvement Scale

Edwards Personal Preference Schedule

Emo Questionnaire

Evaluation Modality Test

Jones Personality Rating Scale

Kuder Preference Record-Personal

(ACER) Word Knowledge Test; Adult Form B

Bruce Vocabulary Test

The College Vocabulary Test

The Morgan Achievement Test in Mathematics for Employee Selection

Purdue Industrial Mathematics Test Basic Number Skills Test for Employee Selection

Computation Test A/67

Aptitude Tests for Occupations

Differential Aptitude Tests

General Aptitude Test Battery

(ACER) Silent Reading Tests

Commerce Reading Comprehension Test

The Nelson-Denny Reading Test

Reading Adequacy "READ" Test; Individual Placement Series

The Reader Rater

NOTE: The above list represents only a few of the possible tests written for adults. For further information, consult the following:

The Seventh Mental Measurements Yearbook, Volumes I and II, edited by Oscar Krisen Buros. The Gryphon Press: New Jersey, 1972.

Essentials of Measurement for Teachers, Walter N. Durost and George A. Prescott. Harcourt, Brace & World, Inc.: New York, 1962.

Using Tests in Counseling, Leo Goldman. Appleton Century-Crofts, Inc.: New York, 1961.

A Practical Introduction to Measurement and Evaluation, H.H. Remmers, N.L. Gage, and J. Francis Rummel. Harper & Brothers: New York, 1955.

Test Scores and What They Mean, Howard B. Lyman. Prentice-Hall, Inc.: Englewood Cliffs, New Jersey, 1963.

MODULE 20.2

TOPIC

Practice selecting appropriate assessment instruments.

LEARNING OBJECTIVE

The trainee will be able to select from a common battery, appropriate tools to be used in prescribing an educational program for an adult learner.

RATIONALE

In order for the trainee to be able to prescribe an educational program for the adult learner, he must be able to select the proper diagnostic materials to be used.

The trainee must know the type of test needed according to the indicated needs and goals of the adult learner. The trainee must be aware of the group for which the test was written as well as the validity of the instrument. He must choose instruments which accurately report skill level and from which predictions of future behavior may be made. The results of instruments chosen must be easily interpretable by means of scales, charts, or other readily understood criteria.

The trainee must also be aware of some cases in which formal testing would not be appropriate. In such cases, the interview must be more selective and more diagnostic in itself.

The objective of this module is to provide the trainee with practice in selecting appropriate assessment instruments for adult learners.

PREASSESSMENT

Directions:

From the list of tests in the Appended Materials section, select at least three tests for each given case and identify each test according to its kind by checking one of the following in the spaces provided.

- a. Diagnostic
- b. Interest
- c. Aptitude

- d. Achievement
- e. Other (specify)

NOTE: Four of five tests accurately identified constitutes passing.

1. This boy is a sixteen-year-old high school drop-out who says he didn't like high school because he was bored. He says he did well in his school work, but was not interested. He wants to go on to college, but wants to get his G.E.D. first as a matter of principle.

Instrument(s) chosen:

Kind of instrument:

- | | | | | | | |
|----|---|---|---|---|---|-------|
| 1. | a | b | c | d | e | _____ |
| 2. | a | b | c | d | e | _____ |
| 3. | a | b | c | d | e | _____ |

2. This man is forty-three years old, is married and has six children. He received his G.E.D. while he was in the service, but says he can't read and write well enough for a promotion on his job.

Instrument(s) chosen:

Kind of instrument:

- | | | | | | | |
|----|---|---|---|---|---|-------|
| 1. | a | b | c | d | e | _____ |
| 2. | a | b | c | d | e | _____ |
| 3. | a | b | c | d | e | _____ |

3. This girl is twenty-two years old and is the sole support of her three preschool children. She is now on welfare and wants to get her G.E.D. in order to make herself more employable. She quit high school when she was sixteen years old to get married.

Instrument(s)

Kind of instrument:

- | | | | | | | |
|----|---|---|---|---|---|-------|
| 1. | a | b | c | d | e | _____ |
| 2. | a | b | c | d | e | _____ |
| 3. | a | b | c | d | e | _____ |

4. This man is fifty-six years old, and was injured in an accident which left him crippled as a young boy. He has no family and has had very

little formal education. He says he quit school in the fourth grade because people told him he was dumb. He wants to learn to read, and eventually to earn his G.E.D.

Instrument(s) chosen:

Kind of instrument:

1. a _____ b _____ c _____ d _____ e _____

2. a _____ b _____ c _____ d _____ e _____

3. a _____ b _____ c _____ d _____ e _____

5. This woman, age forty-seven, wants to get her G.E.D. as a matter of pride. She is unsure of herself, and insists that she does poorly on all tests. She says she has a mental block about testing and would rather not be tested.

Instrument(s) chosen:

Kind of instrument:

1. a _____ b _____ c _____ d _____ e _____

2. a _____ b _____ c _____ d _____ e _____

3. a _____ b _____ c _____ d _____ e _____

LEARNING ACTIVITIES

Learning Activity One

Investigate ten of the instruments on the preassessment list, or ten of your own choosing. It is suggested that you choose at least one test from each of the following categories: (a) diagnostic, (b) interest, (c) aptitude, (d) achievement.

Find the following information, if available, for each test:

- a. Administration
 1. How long does it take
 2. Complexity
 3. How is it scored
- b. What is the level range
- c. What information does the test give
- d. Number of persons able to take the test at one time

- e. How are results reported (charts, scales, etc.)
- f. What kind of test is it (diagnostic, achievement, etc.)
- g. Ease of interpretation

Learning Activity Two

Visit an ABE program in your community. Make arrangements with the instructor there to take the placement tests required in the program.

OPTIONAL LEARNING ACTIVITIES

With the assistance of an ABE instructor and/or counselor, select from the ABE files five case studies.

Interview the five students whose cases you have selected and gather information such as that suggested on the attached information sheet. The information may be gathered by interviewing the student, by consulting records, or by interviewing the instructor. After all the information has been gathered, select three tests from those on the list given with the preassessment.

Compare your selections with the student file to see what selections were actually made. Discuss any discrepancies with the instructor and/or your supervisor.

NOTE: A Student Information Sheet will be found in the Appended Materials section of this module.

POSTASSESSMENT

Directions

From the list of tests in the Appended Materials, select at least three tests for each given case and identify each test according to its kind by checking one of the following in the spaces provided.

- a. Diagnostic
- b. Interest
- c. Aptitude
- d. Achievement
- e. Other (explain)

Satisfactory completion requires four of five cases properly matched with three assessments each.

1. This woman is twenty-six years old and has been in the United States with her husband for seven years. She would like to become a citizen, but has failed the citizenship examination twice, even though she has been taking the classes taught locally. She has had no formal schooling, either in her native country or here in the U.S., other than the citizenship classes.

The family speaks the native language at home exclusively, although the husband speaks good English and has his citizenship. She wants to pass the citizenship test which requires minimal reading (about fourth grade level--although the text is written at about the sixth grade level), some writing (simple sentences--about second grade), minimal arithmetic (practical--i.e., counting money, figuring how much things cost, etc).

Instrument(s) chosen:

Kind of instrument:

- | | |
|----|-----------------------|
| 1. | a b c d e |
| 2. | a b c d e |
| 3. | a b c d e |

2. This young man is twenty years old and has received his high school diploma. He came to you after he found out that he couldn't read directions in a welding class. He would also like to get a driver's license, but is unable to read the driver's manual.

Instrument(s) chosen:

Kind of instrument:

- | | |
|----|-----------------------|
| 1. | a b c d e |
| 2. | a b c d e |
| 3. | a b c d e |

3. This fifteen year old boy has not been in school for three years. He was kicked out of three schools during his seventh grade year, after which he decided not to return. He now wants to attend ABE classes and eventually to get his GED.

Instrument(s) chosen:

Kind of instrument:

1. a ___ b ___ c ___ d ___ e ___

2. a ___ b ___ c ___ d ___ e ___

3. a ___ b ___ c ___ d ___ e ___

4. This man is fifty-three years old and has no family. When he was young, his family moved a great deal, so he attended more than thirty schools during his first four years of school. He was always in the remedial group in school, and his peers and teachers considered him dumb. He has expressed to you that he now feels that he is ready to learn to read and write.

Instrument(s) chosen:

Kind of instrument:

1. a ___ b ___ c ___ d ___ e ___

2. a ___ b ___ c ___ d ___ e ___

3. a ___ b ___ c ___ d ___ e ___

5. This girl is a sixteen-year-old-high school drop-out. She has been in the "dumb" class for all her school career, and has always been behind her classmates in school. She finally felt that she was getting so far behind that she just gave up and quit school. She would like to get a GED.

Instrument(s) chosen:

Kind of instrument:

1. a ___ b ___ c ___ d ___ e ___

2. a ___ b ___ c ___ d ___ e ___

3. a ___ b ___ c ___ d ___ e ___

APPENDED MATERIALS

(suggested interview form)

STUDENT INFORMATION SHEET

Date _____

Years of Formal Schooling Before ABE _____

Levels of Math _____ Reading _____ English _____

Spelling _____

Working on GED _____ Yes _____ No _____

Job Experience _____

Educational Goals _____

Life Goals _____

Tests Selected:

1.

2.

3.

All of the tests listed below appear either in Tests in Print , Oscar Buros, ed. The Gryphon Press: New Jersey, 1961. Or in The Seventh Mental Measurement Yearbook, Oscar Buros, ed.

List of Tests

Wide Range Achievement Test
Nelson-Denny Reading Test
Metropolitan Achievement Tests
Gates MacGinitie Reading Tests
Diagnostic Reading Tests
Gilmore Oral Reading Test
Madden-Peak Arithmetic Computation Test
Davis Reading Test
Durrell-Sullivan Reading Capacity and Achievement Test
Iowa Tests of Basic Skills
Iowa Tests of Educational Development
Stanford Diagnostic Arithmetic Test
Stanford Achievement Test
Stanford Diagnostic Reading Test
Spache Diagnostic Reading Tests
Kuder Preference Test
Edwards Personality Inventory
General Aptitude Test Battery
Gray Votaw Rogers
R.F.U. Placement
Roswell-Chall Diagnostic Reading Test of Word Analysis Skills

Informal interviewing may be a good way to "test" a person who is test-shy.

Additional information about testing may be found in the following:

Essentials of Measurement for Teachers, Walter N. Durost and George A. Prescott. Harcourt, Brace & World, Inc.: New York, 1962.

Using Tests in Counseling, by Leo Goldman. Appleton Century-Crofts, Inc.: New York, 1961.

Test Scores and What They Mean, Howard B. Lyman. Prentice-Hall, Inc.: Englewood Cliffs, New Jersey, 1963.

MODULE 20.3

TOPIC

Practice administering appropriate assessment instruments.

LEARNING OBJECTIVE

The trainee will select and administer appropriate assessment instruments.

RATIONALE

In order to prescribe a program for an adult learner, a demonstrated ability to administer diagnostic material is necessary. A meaningful program can only be constructed after the needs and goals of the adult learner have been assessed.

Too often, training and practice in administration of tests are overlooked or dismissed as unimportant in the training of people to work with adult learners. Evaluation should take place regularly in every program in order to measure progress of students and to provide a guide for the instructor. The most convenient means of evaluation is the assessment instrument.

If the administrator of the assessment instrument has not been properly trained, the consequences fall on the adult learner. Even though he/she follows the instructions written for the test, the administrator may make errors. It is only through practice that valid results may be achieved.

The purpose of this module is to provide practice in the administration of assessment instruments by the trainee with little or no previous experience.

PREASSESSMENT

1. Identify five assessment instruments which can be used in your local program setting.
2. Name four out of seven factors a test administrator should consider when administering tests.

LEARNING ACTIVITIES

Learning Activity One

Observe the administration of at least five different assessment instruments

using the following criteria:

- a. Was the examiner on time?

Yes _____ No _____

- b. Were all the needed materials present and in order if necessary?

Yes _____ No _____

- c. Did the administrator know the elements of the test thoroughly enough so that the session went smoothly?

Yes _____ No _____

Learning Activity Two

Select five tests from the list. They may be the same five you observed being administered. Administer each test to at least five persons. Two of the tests chosen should be those used regularly in an adult education center. Rate your performance according to the following seven point scale:

1. Environment
2. Directions
3. Explanations
4. Rapport
5. Timing
6. Physical setting
7. Organization

Give yourself one point for each above item properly observed.

When you discuss the learning activities with your supervisor, show him the test forms prepared during the testing sessions as well as your answers to the observation questions and your self-evaluation.

1. Environment

Scale of Points

a. Is the environment free of distractions? _____

b. Is there a sign on the door to insure privacy? _____

2. Directions

a. Are they explicit and clear? _____

b. Are they audible and given in a pleasant voice? _____

3. Explanations

a. Did the examiner explain scoring, timing, and possible penalties? _____

b. Were the nature, purpose and intent of the test explained to the examinee? _____

4. Rapport

a. Did the administrator put the examinee at ease? _____

b. What did the examiner do to put the test-taker at ease? _____

5. Timing

a. Was the timing device accurate? _____

b. Did the examiner use a timing clock or equivalent device for timing? _____

6. Physical Setting

a. Was there enough room to work? _____

b. Were the proper materials available? _____

c. Were the seating and writing arrangements comfortable? _____

7. Organization

a. Was the examiner on time? _____

b. Were all the needed materials present and in order if necessary? _____

POSTASSESSMENT

Arrange for your site supervisor to observe a testing session in which you administer one or more tests from the list given within Appended Materials. Rate your own performance (with advice from your supervisor) according to the scale used in Learning Activity Two.

APPENDED MATERIALS

For test information, consult the following sources:

Tests in Print: A Comprehensive Bibliography of tests for use in Education, Psychology, and Industry, Oscar Krisen Buros, ed. The Gryphon Press: 1961.

The Seventh Mental Measurement Yearbook, Vol. I and II, Oscar Krisen Buros, ed. The Gryphon Press: 1972.

List of Tests

Wide Range Achievement Test

Nelson-Denny Reading Test

Metropolitan Achievement Test

Gates-MacGinitie Reading Tests

Diagnostic Reading Tests

Gilmore Oral Reading Test

Spache Diagnostic Reading Tests

Madden-Peake Arithmetic Computation Test

Davis Reading Test

Durell-Sullivan Reading Capacity and Achievement Test

Iowa Test of Basic Skills

Iowa Tests of Educational Development

Stanford Achievement

Stanford Diagnostic Reading Test

Kuder Preference Test

Edwards Personality Inventory

General Aptitude Battery

Roswell-Chall Test of Word Attack Skills

For further information on testing, consult the following resources:

Essentials of Measurement for Teachers, Walter N. Durost and George A. Prescott. Harcourt, Brace & World, Inc.: New York, 1962.

Using Test in Counseling, Leo Goldman. Appleton Century-Crofts, Inc.: New York, 1961.

A Practical Introduction to Measurement and Evaluation, H.H. Remmers, N.L. Gage, and J. Francis Rummel. Harper & Brothers: New York, 1955.

Test Scores and What They Mean, Howard B. Lyman. Prentice-Hall, Inc.: Englewood Cliffs, New Jersey, 1963.

MODULE 20.4

TOPIC

Identify and build appropriate group norms.

The learner will be able to construct a set of local norms for a commonly used achievement test of his choice using a frequency distribution, percentile ranks, and points.

RATIONALE

If a test is to be truly appropriate to a given locality the predictive norms must be built from a local group of students against which future testees can be compared. The responsibility for a local norm group will generally fall on the counselor. The counselor can continue to use inappropriate "general" norm groups as established by the test producer or the counselor can build new ones and having done so, make much more accurate and perhaps relevant predictions of success in the various adult learning programs.

As the learner you should now be able verbally or in writing to pick out a percentile point from a percentile rank.

You should be able to choose the characteristics of a norm group that will fit any client you have or to tell what characteristics you want your local norm group to possess to enable you to compare future clients test results.

You should be able to state what a frequency distribution is and to tell of what importance it is in finding percentile ranks and points.

PREASSESSMENT

You must be able to answer the following questions with ninety percent accuracy.

1. Give your definition of what a norm group is. (See Learning Activity Number One)
2. Name four pieces of knowledge about a norm group you should have before you can use the norm for comparison with your client. (See Learning Activity Numbers One and Two)

3. List two alternate ways of establishing the characteristics of a norm group. (See Learning Activity Numbers One and Two)
4. In writing, describe what a frequency distribution is and how it is used. (See Learning Activity Number Three)
5. If you have a percentile of twenty-nine, what percent of scores will be below yours? What percent will be higher than yours? (See Learning Activity Number Three)
6. State in writing the difference between a percentile point and a percentile rank. (See Learning Activity Number Three)
7. List the seven steps one must go through to construct a percentile rank. (If your answer does not agree with the answer provided here and you feel that your method is an acceptable alternative, take this to your supervisor with evidence, such as a text book, to support your claim. (See Learning Activity Number Three)
8. Compute the percentile point for the 70th percentile using the following information. (See Learning Activity Number Four)

Raw Score Interval	Frequency	Cumulative Frequency	Cum. Freq. Mid-Point	Cumulative Porportion	%ile
40-44	28	138	152.0	.7487	74.9
35-39	30	108	123.0	.6059	61.0

N = 203

Interval = 5

LEARNING ACTIVITIES

Learning Activity One

Look up the definition or explanation of a "norm group" in three different texts. (Texts written for teachers telling them how to use texts have the clearest definitions.) Write each on paper. Then write your own definition in your own words--not a paraphrase.

Learning Activity Two

Examine one test administrators' manuals for each of the following types of standardized test:

1. I.Q. (mental abilities) test culture-fair or Stanford-Binet or Lorge-Thorndyke
2. Aptitude Test General Aptitude Test Battery or Bennett Mechanical Comprehension Test or Flanagan Aptitude Classification Test (Obtainable through State Employment Office)
3. Achievement Test Nelson-Denny Reading Test or Michigan Vocabulary Profile Test or Cooperative School and College Ability Test

Refer to the explanations which you found in the three texts in Learning Activity Number One of what a norm group should include. What do you discover about the kinds of information needed to compare a testee's score against a norm group and what is actually provided? As a result of what you have just seen, how do you feel you and your clients would benefit by having local norms?

Learning Activity Three

Read pages 165 through 168 in Principles of Educational and Psychological Testing, Frederick G. Brown, The Dryden Press, Inc.,

Take particular note of the illustration on page 166.

Now that you have read how to construct a frequency distribution chart and from that create a percentile rank, you are to choose a standardized test that is frequently used in your setting. Collect fifty to seventy-five test scores. Scores may have been taken previously and are on file or the scores may be new ones you administer just for this purpose. (If previous scores, make sure you know date of testing, educational attainment level, purpose for testing, and age of each individual whose score you use.) Once you have your scores, specifically describe in writing the characteristics of this new norm group.

Build a frequency distribution chart and from that construct a percentile rank of your scores. When you have completed this, you will be able to distinguish the percentile of any raw score of your norm group.

What about the individual taking the test two months from now whose score does not match the ones from your norm group? If you are to know where a new score falls when placed in comparison to the norm group, compute the percentile points up and down the scale. You will find the means of doing this listed on page 167 of Frederick G. Brown's book.

Using the methods described in Brown's book, compute the deciles from ten through ninety and also the deciles plus five such as five, fifteen, twenty-five, ect., through ninety-five.

The procedures listed in Brown's book describes only how to find a percentile point when you are using an interval of one (1) between raw scores. The next step will be to find the percentile point when you have an interval greater than one. In order to do this you have to work backwards, in contrast to computory percentile ranks. You start with the percentile rank that you wish to find. From this you need to compute the cumulative frequency mid-point (CFMP). In order to work through to the percentile point, or raw score, which will equal the percentile rank, observe the following steps.

1. Find the cumulative frequency mid-point (CFMP) for the percentile you are working with. Do this by using the following formula.

$$\text{CFMP} = \frac{\text{Percentile Rank} \times N}{100}$$

Using the frequency distribution chart provided below, compute the CFMP for the 80th percentile as follows:

$$\frac{80 \times 203}{100} = \text{CFMP}$$

$$\frac{16240}{100} = 162.40 = \text{CFMP}$$

2. Locate on the frequency distribution chart where CFMP 162.4 falls in the distribution. On the chart we are using, you can see the CFMP falls between 152 and 175.5 on the CFMP column.
3. Compute the difference between the lower CFMP and the computed CFMP by subtraction. In the example this difference is between 152 and 162.4, or 10.4.
4. Compute, by subtraction, the difference between the lower CFMP and the upper CFMP. Referring to the example again, see that this would be the difference between 152 and 175.5, or 23.5.
5. Make a ratio of steps three and four by placing the answer of number three over number four. Again, in our example we see that this appears as 10.4/23.5.

6. Multiply the raw score interval in use by the ratio created in step number five. The ratio created in the example of number five was $10.4/23.5$. Multiply this ratio by the interval used in the chart below, 5. This will look like this:
 $5/1 \times 10.4/23.5 = 52/23.5 = 2.21$.
7. Since the CFMP is the mid-point between frequency levels, we have to adjust the raw score to match. Thus, you need to find the mid-point of the lower raw score interval. In our example this is the interval forty to forty-four since this is the interval associated with the lower CFMP. Note the difference within the interval is four points. One half of this is two, and by adding the two points to the low score within the interval, forty we get forty-two.
8. Add the results of step number six to forty-two and get 44.21 equaling the 80th percentile rank. Adding the results of the two steps, numbers six and seven, always solves the problem about which percentile point is associated with a given percentile rank.

Learning Activity Four

Using the steps listed above, describe how to figure the percentile point of any percentile rank you need. Compute the percentile points for the following list of Percentile Ranks: 10th, 15th, 25th, 30th, 40th, 50th, 75th, 85th, 90th, and 95th.

Raw Score Interval	Frequency	Cumulative Frequency	Cum. Freq. Mid-Point	Cumulative Proportion	Percentile Rank
60-64	0	203	203	1.000	100
55-59	8	195	199	.9802	98.0
50-54	10	185	190.0	.9359	94.0
45-49	19	166	175.5	.8620	86.0
40-44	28	138	152.0	.7487	74.9
35-39	30	108	123.0	.6059	61.0
30-34	35	73	90.5	.4458	45.0
25-29	28	45	59.0	.2906	29.1
20-24	16	29	37.0	.1822	18.0
15-19	14	15	22.0	.1083	11.0
10-14	10	5	10.00	.0492	5.0
5-9	4	1	3.0	.0140	1.0
0-4	1	0	.5	.0024	1.0

POSTASSESSMENT

Complete the Preassessment.